DOCUMENT RESUME

ED 072 724 HE 003 766

TITLE	Regional Comparative Unit Cost Studies for Maintenance and Operation of Physical Plants in Universities and Colleges in Central States Region and Rocky Mountain Region.
INSTITUTION	Association of Physical Plant Administrators, Corvallis, Oreg.
PUB DATE	72
NOTE	38p.
AVAILABLE FROM	Association of Physical Plant Administrators of Universities and Colleges, Corvallis, Oregon ($2.00)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Costs; *Educational Finance; *Higher Education; *Maintenance; *Operating Expenses

ABSTRACT

Presented in this document are data pertaining to maintenance and operations costs at colleges and universities in the central states region and the Rocky Mountain region. The major accounts included in the cost analysis are: (1) physical plant administration, (2) building maintenance, (3) custodial services, (4) utilities, (5) landscape and grounds maintenance, and (6) major repairs and renovations. (HS)

ED 072724

REGIONAL COMPARATIVE UNIT COST STUDIES FOR MAINTENANCE AND OPERATION OF PHYSICAL PLANTS IN UNIVERSITIES AND COLLEGES

IN

Central States Region
and
Rocky Mountain Region

Association of Physical Plant Administrators
of Universities and Colleges

1972

HE 003766

Price $2.00

ED 072724

REGIONAL
COMPARATIVE UNIT COST
STUDIES FOR
MAINTENANCE AND OPERATION OF
PHYSICAL PLANTS IN
UNIVERSITIES AND COLLEGES
IN
CENTRAL STATES REGION
ROCKY MOUNTAIN REGION

ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS
OF UNIVERSITIES AND COLLEGES

CONTENTS

1. Sample Questionnaire

2. Classification of Major Accounts and Summary of Definitive Terms

3. Index of Institutions Returning Questionnaires

4. Relative Enrollments and Sizes

5. Tabulation of Costs by Major Account followed by Bar Graph for that Account

REPORT
OF
STANDARDS COMMITTEE

October 1972

COMMITTEE MEMBERSHIP

Mr. James P. Berling	CSRA	Rice University Houston, Texas
Mr. Gene B. Cross	RMRAPPA	University of Utah Salt Lake City, Utah
Mr. John Ellingson	RMRAPPA	Arizona State University Tempe, Arizona
Mr. Raymond Halbert	CSRA	University of Missouri Columbia, Missouri
Mr. Mike Jancic	RMRAPPA	University of Colorado
Mr. Victor E. Robeson, Jr.	CSRA	University of Missouri Rolla, Missouri
Mr. George Wendel	CSRA	Peru State College Peru, Nebraska

CSRA AND RMRA OF
ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS
STANDARDS COMMITTEE QUESTIONNAIRE - 1972

A. MAINTENANCE AND OPERATIONS COST

Subdivision	Gross Sq. Ft. Building Area Serviced	Actual $ Expended 1971-72	Cost per Sq. Ft. (gr area) 71-72	Optimum Unit Cost per Sq.Ft.(In your opinion, your Plt.
1. Physical Plant Admin. 1.1 & 1.2				
2. Building Maintenance 2.1 thru 2.4				
3. Custodial Services 3.1 thru 3.6				
4. Utilities 4.1 thru 4.6				
5. Landscape & Grounds Maint. 5.1 thru 5.9				
6. Major Repairs & Renovations 6.1 thru 6.4				
7. Other Physical Plant Services				
8. Total Physical Plant Expenditures				
9. Total Institution Expenditures (not including auxiliary enterprises)				
10. Physical Plant expenditures as a percent of nine above				

B. CAMPUS AREA

Gross Area, acres _____

Intensely maintained area, acres _____

C. ENROLLMENT DATA

2.1 Total Head Count on campus _____

Student Credit Hours as recorded with Registrar:

Graduate _____
Undergraduate _____

2.2 Full time equivalent students (divide graduate credits by 9 and undergraduate by 15 and add these two figures together) _____

D. PROGRAM: Please check those that apply to your school

☐ 2 year ☐ 4 year ☐ Medical - Dental - Veterinary Medicine

SIGNED _____ SCHOOL _____

SAMPLE

ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS
CLASSIFICATION OF ACCOUNTS
APRIL, 1971

MAJOR ACCOUNTS

1. Physical Plant Administration
2. Building Maintenance
3. Custodial Services
4. Utilities
5. Landscape and Grounds Maintenance
6. Major Repairs and Renovations

OUTLINE OF COSTS TO BE INCLUDED UNDER EACH MAJOR ACCOUNT

1. Physical Plant Administraction

All activities necessary to carry out the duties of management and administration for all areas under the jurisdiction of the Physical Plant Division are included. Examples of the activities are:

1.1 Administration

Salaries, wages, employee benefits, travel, equipment, and other operating costs required for:

Administrator
Assistant Administrators
Office personnel including account keeping done by the Physical Plant Department such as payroll, billing material ordering, personnel records and dispatching of work orders. Other administrative operating costs including supplies, materials, pro rata share of telephones, postage, computer rental, accounting machine costs and career training programs.

1.2 Engineering normally includes:

Salaries, wages, employee benefits, travel, equipment, and other costs required to provide technical and engineering services necessary to effectively carry out the functions assigned and funded in the Physical Plant Division. Includes staff personnel such as engineers, architects, draftsmen, estimators, schedulers; and preparation of documents for contractural maintenance and renovations; also includes analysis of systems and modes of operation,

plant records, etc. Preparation of architectural and engineering plans and specifications for the alterations and new construction are normally funded from other sources.

2. Building Maintenance

Building maintenance includes all items related to routine repair of buildings, structures and appurtenances, including normal recurring repairs and preventative maintenance. Include the following:

2.1 Interior and exterior buildings

2.1.1 Plumbing, heating, air conditioning, and ventilating,

2.1.2 Electrical repairs of all types including primary and secondary systems, and certain lamp replacements (requiring special ladders and rigging) and maintenance of outdoor lighting fixtures (excludes energy costs),

2.1.3 Carpentry and cabinet making,

2.1.4 Painting and glazing,

2.1.5 Hardware, locks, keys, closers and records,

2.1.6 Roofing and sheet metal work, including downspouts and gutters,

2.1.7 Welding and necessary machine work,

2.1.8 Elevators and similar equipment

2.1.9 Miscellaneous building repairs such as tuckpointing, blinds, etc.

2.2 Maintenance of general purpose classroom furniture and equipment within the building not inventoried to a department.

2.3 Maintenance of utility distribution systems inside the building. Electrical, heating, process steam, water lines, gas lines and sewer lines (both storm and sanitary).

2.4 Operating and replacement costs of all equipment and material and tools used in connection with building maintenance excluding hand tools furnished by the employees.

2. Building Maintenance - (Cont'd)

Building maintenance may also provide services on a reimbursable basis to other accounts. Examples of these are auxiliary enterprises, alterations and improvements, new construction, experimental and special teaching support facilities, research, and departmental inventoried equipment.

3. Custodial Services

Includes all costs related to custodial services in building interiors. Does not include auxiliary enterprise buildings.

3.1 Salaries, wages and employee benefits of custodians, supervision, and services required for cleaning of building interiors.

3.2 Small set ups only where materials for the special set ups are stored or kept within the same building.

3.3 Snow removal on building steps + 5 feet of sidewalk in each direction.

3.4 Other operating costs such as paper, paper towels and tissue, wax, erasers, chalk, cleaners, and other materials and supplies.

3.5 Operating and replacement costs for all equipment used in connection with custodial services and lamp replacement readily accessible without special ladders and rigging.

3.6 Elevator operation on non-automatic equipment.

Common operations include: Mopping, sweeping, waxing of floors (sanding and refinishing of floors are excluded); dusting, polishing of furniture and fixtures such as venetian blinds, partitions, pictures, maps, radiators, etc.; cleaning of chalkboards, chalk trays, erasers, and replacement of chalk; washing and dusting of walls; cleaning and disinfecting commodes and urinals; cleaning and washing other fixtures, walls and partitions, and replenishing supplies for restrooms; the emptying and cleaning of waste receptacles; dusting and cleaning of windows and other glass surfaces; sweeping and cleaning of entrances; and opening and/or closing building doors and windows.

The custodian is not a personal servant, messenger, mailman or laboratory assistant for the faculty or students. Generally, services requiring technical direction at the time of performances such as cleaning chemistry laboratory bench tops, decontaminating radioactive facilities, or cleaning of extremely delicate apparatus are not classified as custodial, but are usually provided by the department having specific jurisdiction.

4. Utilities

Utility services include all costs for energy for heating, cooling, light and power, gas, water and any other utilities necessary for the operation of the physical plant and normally includes:

4.1 Payroll costs of all supervisory and operating personnel in connection with utilities,

4.2 Operation and maintenance of heating and power plant equipment including water plant and sewage disposal plants,

4.3 Operation and maintenance of equipment in central air conditioning plant,

4.4 Contractural costs for purchase of electricity, water and sewage treatment,

4.5 Operating and replacement costs of all equipment used in connection with production of utilities,

4.6 Maintenance of utility tunnels, outdoor distribution systems for electricity, gas, steam, compressed air, chilled water, and high temperature water, domestic water, sanitary and storm drains. The expense does not include open ditch drainage.

5. Landscape and Grounds Maintenance

Grounds maintenance includes operation and maintenance of campus landscape and grounds. Exclude areas not intensively maintained by the Physical Plant budget and/or other areas for which the Physical Plant is reimbursed.

5.1 Salaries, wages and employee benefits of all supervisory and operating personnel in connection with grounds,

5.2 All areas of the main campus maintained. Growing things as trees, grass, shrubs, flowers, nursery stock including seeds, fertilizers, and plant materials,

5.3 Maintenance of roads and walks, parking areas, irrigation systems, signs, etc.,

5.4 Snow removal,

5.5 Maintenance of golf course, athletic practice fields, and stadium varsity fields. (Costs are normally excluded from physical plant budgets),

5.6 Maintenance of Physical Education, intramural, and R.O.T.C. drill fields.

5. Landscape and Grounds Maintenance - (Cont'd)

5.7 Maintenance of open ditch drainage, fences, retaining walls and rip rap.

5.8 Care of miscellaneous fixed equipment such as benches, shelter houses, etc.,

5.9 Operation and replacement costs of all equipment used in connection with grounds and maintenance.

6. Major Repairs and Renovations (Special Line Items)

Major repairs and rehabilitation includes all costs for major non-recurring repairs and major deferred maintenance items. Major projects are those costing in excess of $10,000.

6.1 Cost of salaries of supervisory and operating personnel connected with major repairs and renovation projects,

6.2 Line item special allotments and essentially large improvement items,

6.3 Replacement costs of all equipment used in connection with major repairs and renovations.

6.4 Costs related to planning, design, or administration of major repairs and renovations.

7. Other Services

Other essential services not consistently within the Physical Plant Department, yet frequently assigned, are:

Automotive Repair
Bus Systems
Construction Planning & Inspection
Communications (i.e. Telephone & Telegraph)
Mail and Messenger Service
Property Insurance
Purchasing & Stores
Safety
Security & Traffic
Solid Waste Disposal
Trucking & Moving

DEFINITIVE TERMS

1. GROSS AREA

The area to be reported here is the total area maintained by your department and for which your department has a budget. Do not include any area for which your department is reimbursed. Give areas and costs for only those areas where Physical Plant Department is responsible.

As defined in the U.S. Department of Health, Education, and Welfare Bulletin No. OE 51004-12, "Function then relates to assignable area plus unassignable area (restrooms, corridors, stairs, wall and partition thickness, and the like), equal gross area." Gross area, therefore, is defined as the area of each floor level included within the principal outside faces of exterior walls, neglecting architectural setbacks and projections. All stories or space which have floor surfaces that can be adapted to use are included.

1.1 Definition

"Gross Area" should be construed to mean the sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces.

1.2 Basis for Measurement

Gross area should be computed by measuring from the outside face of exterior walls, disregarding cornices, pilasters, buttresses, etc., which extend beyond the wall face.

1.3 Description

In addition to ground-to-top-story internal floored spaces obviously covered in 1.1 above, gross area should include basements (except unexcavated portions), attics, garages, enclosed porches, penthouses and mechanical equipment floors, lobbies, mezzanines, all balconies - inside or outside - utilized for operational functions, and corridors, provided they are within the outside face lines of the building.

Roofed loading or shipping platforms should be included whether within or outside the exterior face lines of the building.

1.4 Limitations

Open courts and light wells, or portions of upper floors eliminated by rooms or lobbies which rise above single-floor ceiling height, should not be included in the gross area. nor should unenclosed roofed-over areas floored surfaces with less than 6 feet 6 inch clear head room be included unless they can properly be designated and used as either net assignable, mechanical, circulation, or custodial area.

1.5 Part Year Occupancy

When new buildings become operative during the year or for any reason an existing building is in service for only a part of the year, the area to be reported is the gross area multiplied by the fraction of the year the building was in service. Example: the fiscal year of the school ends on June 30. A new building of 100,000 gross square feet is accepted for beneficial occupancy on March 1. The area to be reported is 4/12 x 100,000 = 33,300 sq.ft. for the year of first occupancy. The following year the area to be reported is 100,000 sq. ft.

2. STUDENT ENROLLMENT

Enrollment data reported should be counted on the twelfth class day of the first semester of the fiscal year being reported. Example: reporting for fiscal year 1969-70. If classes began on September 8, 1969, enrollment as of September 24, 1969, should be reported.

2.1 Total Head Count should include all students registered regardless of academic load and should include both day and night students.

2.2 Full-Time Equivalent students should be determined by dividing the number of graduate credit hours by 9 and the undergraduate hours by 15.

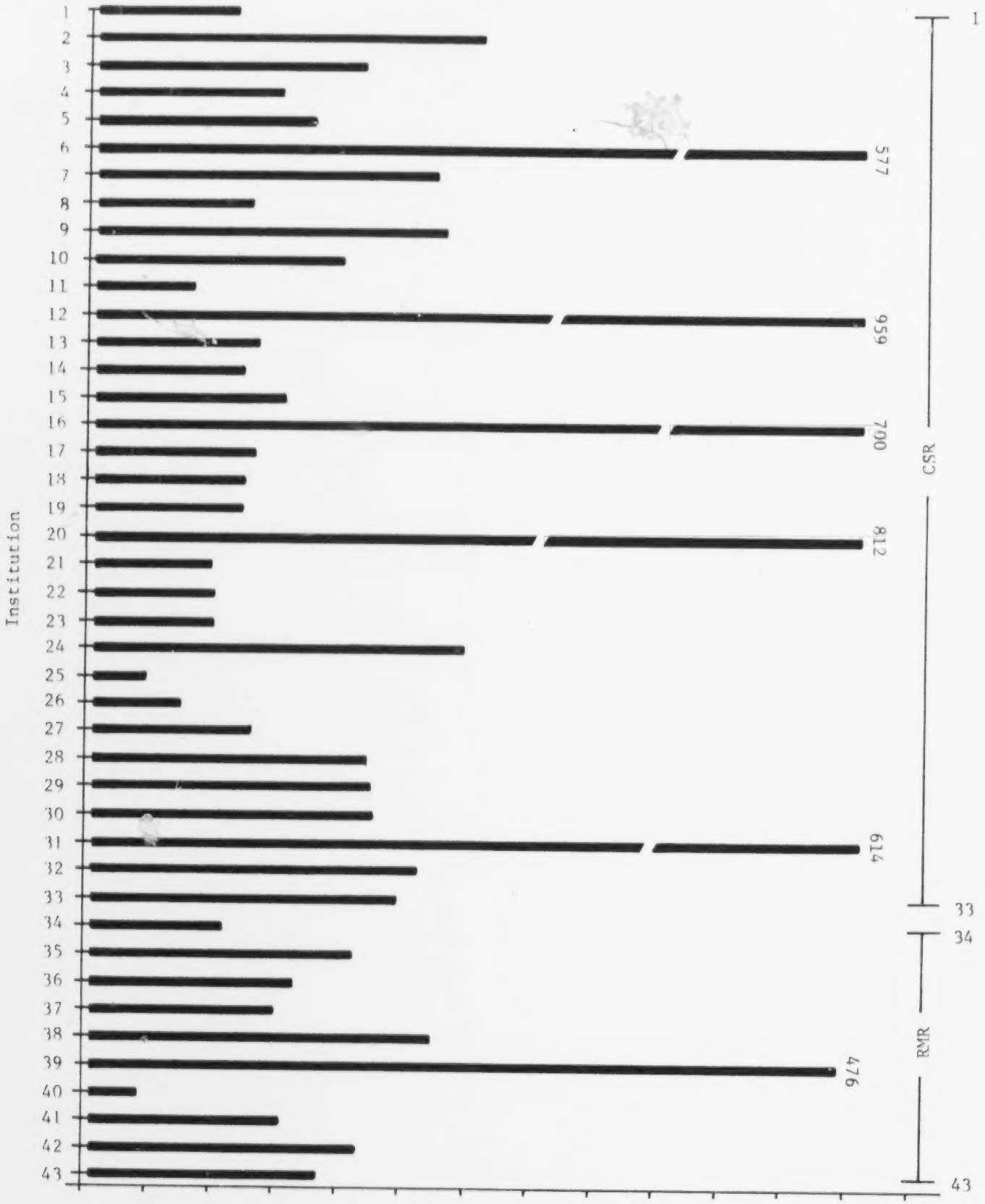
IDENTIFICATION NUMBER	INSTITUTION	
1	Pan American University, Edinburg, Texas	1
2	University of South Dakota, Vermillon, South Dakota	
3	Kansas State University, Manhattan, Kansas	
4	University of Houston, Houston, Texas	
5	Southern Methodist University, Dallas, Texas	
6	Rice University, Houston, Texas	
7	University of Missouri - Rolla, Rolla, Missouri	
8	Northeast Missouri State University, Kirksville, Missouri	
9	Central Missouri State University, Warrensburg, Missouri	
10	University of Missouri - Columbia, Columbia, Missouri	
11	Wichita State University, Wichita, Kansas	
12	University of Texas Southwestern Medical School, Dallas, Texas	
13	Northern State College, Aberdeen, South Dakota	
14	University of Missouri - Kansas City, Kansas City, Missouri	
15	Midwestern University, Wichita Falls, Texas	
16	University of Nebraska Medical School, Omaha, Nebraska	
17	Kansas State Teachers College, Emporia, Kansas	CSR
18	Washburn University of Topeka, Topeka, Kansas	
19	University of Texas at El Paso, El Paso, Texas	
20	University of Texas Medical School, San Antonio, Texas	
21	University of Missouri - St. Louis, St. Louis, Missouri	
22	Florissant Valley Community College, St. Louis, Missouri	
23	St. Mary's University, San Antonio, Texas	
24	Barton County Community College, Great Bend, Kansas	
25	University of Nebraska at Omaha, Omaha, Nebraska	
26	Central Texas College, Killeen, Texas	
27	East Texas State University, Commerce, Texas	
28	Oklahoma Baptist University, Shawnee, Oklahoma	
29	University of North Dakota, Grand Forks, North Dakota	
30	Webster College, St. Louis, Missouri	
31	University of Kansas Medical Center, Kansas City, Kansas	
32	Abilene Christian College, Abilene, Texas	
33	The University of Kansas, Lawrence, Kansas	33
34	Arizona Western College, Yuma, Arizona	34
35	University of Utah, Salt Lake City, Utah	
36	Western State College of Colorado, Gunnison, Colorado	
37	Arizona State University, Tempe, Arizona	
38	Eastern New Mexico University, Portales, New Mexico	RMR
39	Southern Utah State College, Cedar City, Utah	
40	Arapahoe Community College, Littleton, Colorado	
41	New Mexico State University, Las Cruces, New Mexico	
42	Colorado State University, Fort Collins, Colorado	
43	Montana State University, Bozeman, Montana	43

RELATIVE ENROLLMENTS AND SIZES
1971 - 1972

INSTITUTION	HEAD COUNT	F.T.E.	ACRES MAINTAINED	INSTRUCTIONAL SQUARE FEET	SQUARE FEET/ HEAD COUNT
1	6,217	5,089	110	570,280	92
2	5,625	5,024	80	1,396,747	248
3	14,789	14,661	180	2,562,461	173
4	26,475	20,955	150	3,229,630	121
5	10,016	8,424	171	1,437,965	143
6	3,231	3,200	222	1,866,540	577
7	4,755	5,045	114	1,048,086	220
8	6,273	5,942	133	651,556	103
9	12,572	11,367	432	2,841,796	226
10	21,942	22,963	290	3,548,558	161
11	13,034	7,625	138	880,898	67
12	546		28	524,039	959
13	3,083	2,953	45	334,464	108
14	9,894	7,858	97	986,601	99
15	4,100	3,089	100	520,443	126
16	1,233	920	30	864,170	700
17	7,302	5,946	200	774,467	106
18	5,195	4,155	160	521,391	100
19	11,348		174	1,114,183	98
20	576		35	468,200	812
21	10,188	8,516	43	813,400	79
22	6,124		60	497,000	81
23	3,974	3,385	90	324,519	81
24	1,030	775	90	246,026	239
25	12,400	26,850	42	466,253	38
26	3,749	2,002	46	227,972	61
27	8,108		98	852,462	105
28	1,526	1,435	60	271,181	178
29	8,395	7,922	276	1,507,872	180
30	1,645	1,140	12	300,000	182
31	1,651	1,836	35	1,014,000	614
32	3,311	3,057	140	697,900	211
33	18,518	18,375	250	3,664,874	198
34	3,120	1,807	33	274,424	88
35	21,569	21,668	362	3,665,000	170
36	3,186	3,219	150	425,041	133
37	26,564	23,928	310	3,213,741	121
38	4,342	4,000	120	956,988	220
39	1,200	1,859	50	570,683	476
40	2,459	1,704	20	85,773	35
41	9,075	6,451	375	1,130,151	125
42	16,800	16,571	418	2,899,390	173
43	8,113	8,457	204	1,202,021	148

RELATIVE ENROLLMENTS AND SIZES

1971-72 Fiscal Year

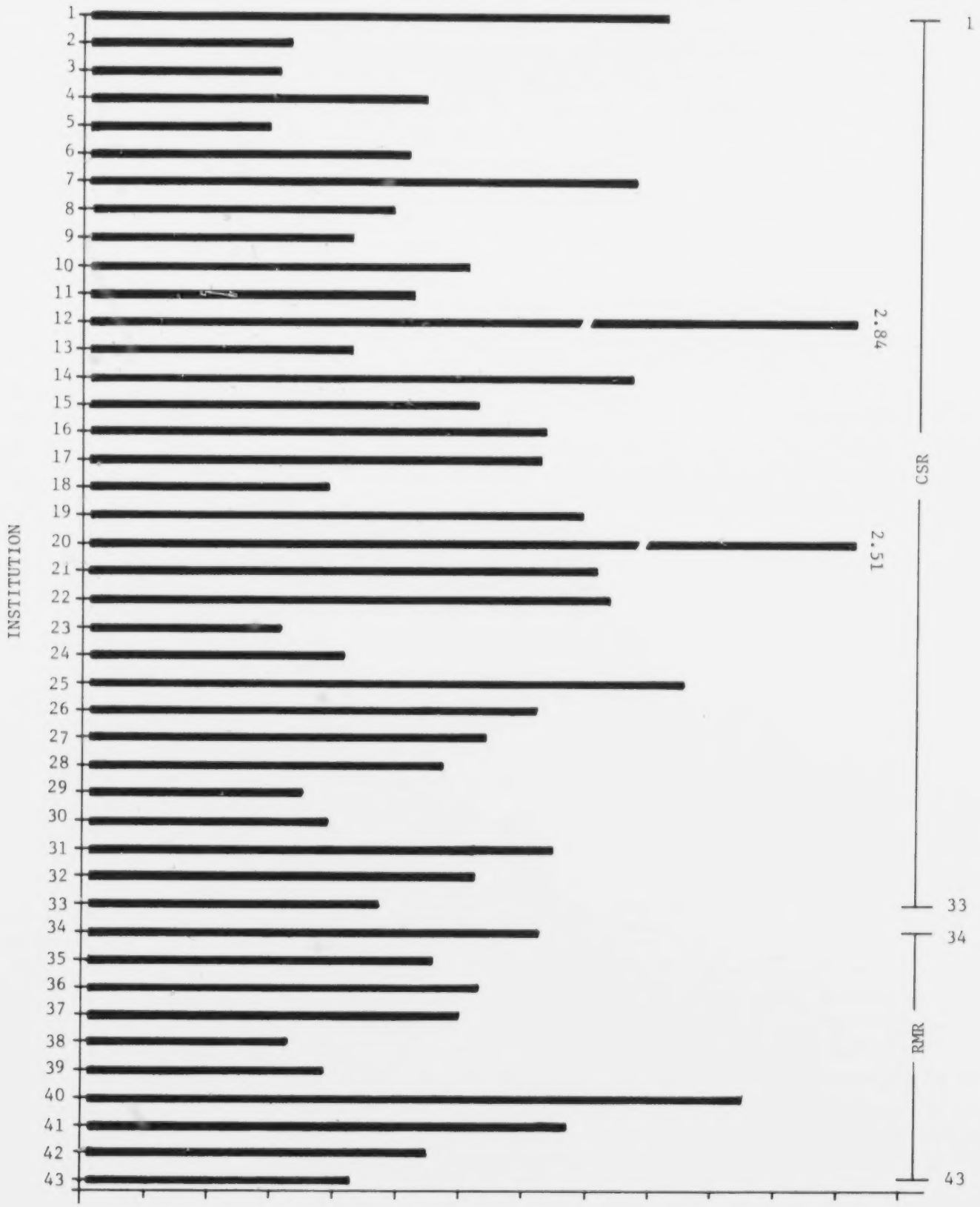


TOTAL COST IN DOLLARS
1971 - 1972

INSTITUTION	HEAD COUNT No. of	SQUARE FEET No. of	TOTAL BUDGET PHYSICAL PLANT $	COST/ SQ. FT. $	COST/ HEAD COUNT $
1	6,217	570,280	1,050,531	1.84	169
2	5,625	1,396,747	925,433	.66	165
3	14,789	4,468,711	2,788,644	.62	189
4	26,475	3,663,912	3,974,420	1.08	150
5	10,016	2,620,221	1,538,777	.59	154
6	3,231	1,866,540	1,918,181	1.03	594
7	4,755	1,283,235	2,244,660	1.75	472
8	6,273	1,370,824	1,343,292	.98	214
9	12,572	3,042,572	2,594,760	.85	206
10	21,942	6,351,888	7,769,672	1.22	354
11	13,034	1,235,901	1,288,959	1.04	99
12	546	550,574	1,562,184	2.84	2,861
13	3,083	550,127	467,962	.85	152
14	9,894	1,439,729	2,501,571	1.74	253
15	4,100	520,443	652,412	1.25	159
16	1,233	1,120,570	1,647,263	1.47	1,336
17	7,302	774,467	1,119,450	1.45	153
18	5,195	748,498	576,715	.77	111
19	11,348	1,114,183	1,766,008	1.58	156
20	576	468,200	1,177,316	2.51	2,044
21	10,188	813,140	1,322,358	1.63	130
22	6,124	497,000	828,185	1.67	135
23	3,974	657,195	416,246	.63	105
24	1,030	250,440	208,368	.83	202
25	12,400	833,131	1,591,151	1.91	128
26	3,749	227,972	327,945	1.44	87
27	8,108	1,007,212	1,292,917	1.28	159
28	1,526	271,181	309,232	1.14	203
29	8,395	2,708,648	1,891,500	.70	225
30	1,645	300,000	234,464	.78	143
31	1,651	1,237,000	1,849,250	1.49	1,120
32	3,311	697,900	866,607	1.24	262
33	18,518	5,056,670	4,764,758	.94	257
34	3,120	274,424	396,720	1.45	127
35	21,569	3,665,000	4,114,605	1.12	191
36	3,186	425,041	536,025	1.26	168
37	26,564	4,444,902	5,312,657	1.20	200
38	4,342	967,225	637,166	.66	147
39	1,200	590,739	456,350	.77	380
40	2,459	85,773	179,893	2.10	73
41	9,075	1,130,151	1,737,707	1.54	191
42	16,800	2,899,390	3,201,598	1.10	191
43	8,113	1,482,349	1,269,752	.86	157

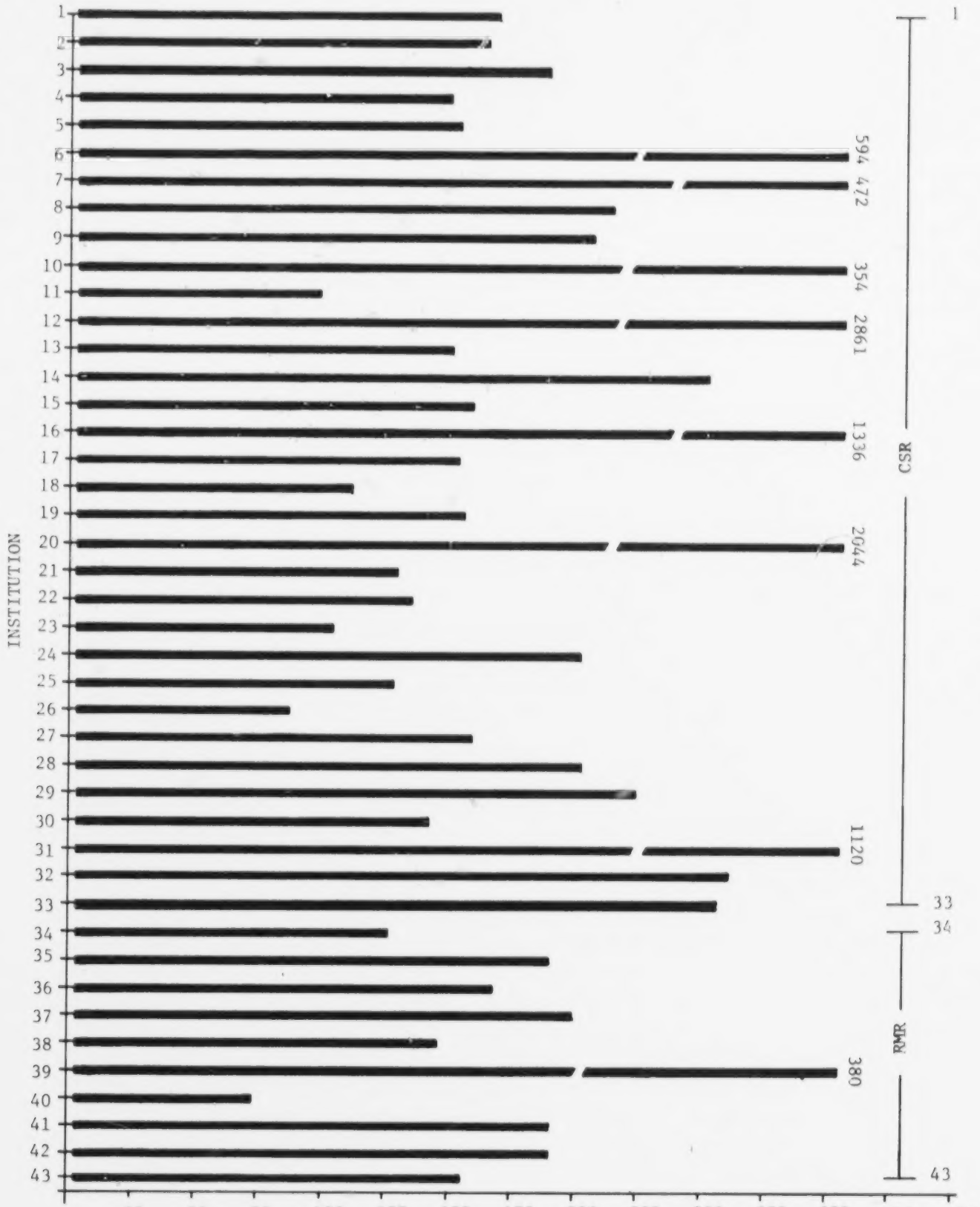
TOTAL PHYSICAL PLANT COST

1971-72 Fiscal Year Sq. Ft. Comparison



TOTAL PHYSICAL PLANT COSTS

1971-72 Fiscal Year Head Count Comparison

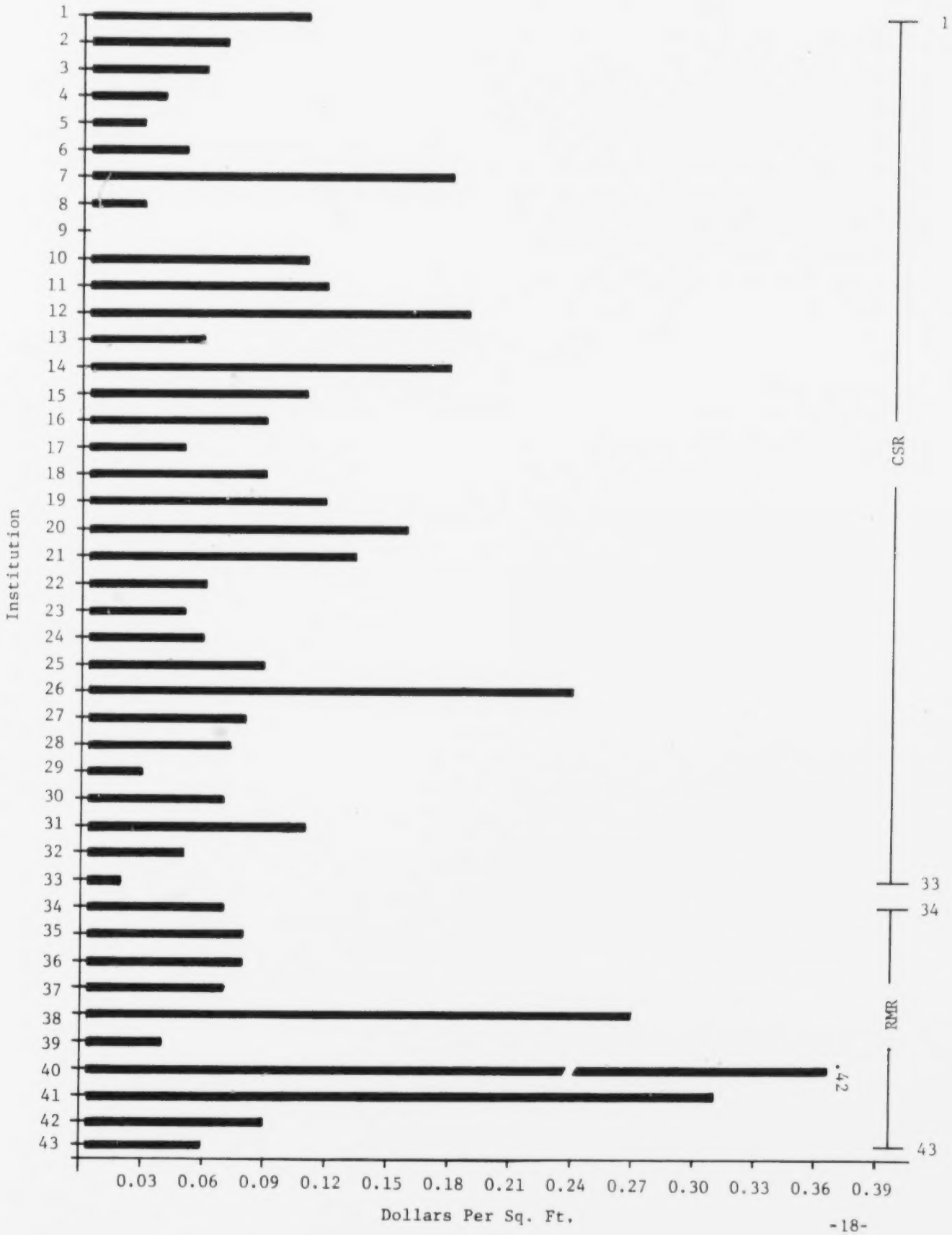


ADMINISTRATION
&
GENERAL SERVICES
1971 - 1972

INSTITUTION	HEAD COUNT	SQUARE FEET	COSTS $	COST/ SQ. FT. $	COST/ HEAD COUNT $
1	6,217	570,280	60,052	0.11	9.66
2	5,625	1,396,747	98,688	0.07	17.54
3	14,789	4,468,711	288,419	0.06	19.50
4	26,475	3,229,630	123,510	0.04	4.67
5	10,016	2,620,221	89,368	0.03	8.92
6	3,231	1,866,540	95,791	0.05	29.65
7	4,755	1,283,235	233,260	0.18	49.06
8	6,273	1,370,824	41,131	0.03	6.56
9	12,572		45,213		3.60
10	21,942	6,351,888	682,698	0.11	31.11
11	13,034	880,898	106,499	0.12	8.17
12	546	550,574	107,220	0.19	196.37
13	3,083	550,127	31,912	0.06	10.35
14	9,894	1,439,729	259,356	0.18	26.21
15	4,100	520,443	58,933	0.11	14.37
16	1,233	1,090,042	93,714	0.09	76.00
17	7,302	774,467	38,518	0.05	5.27
18	5,195	571,919	49,438	0.09	9.52
19	11,348	1,114,183	136,874	0.12	12.06
20	576	468,200	74,727	0.16	129.73
21	10,188	813,140	108,753	0.13	10.67
22	6,124	497,000	28,651	0.06	4.68
23	3,974	657,795	35,497	0.05	8.93
24	1,030	250,440	16,000	0.06	15.53
25	12,400	833,131	73,731	0.09	5.95
26	3,749	227,972	54,882	0.24	14.64
27	8,108	1,007,212	76,704	0.08	9.46
28	1,526	271,181	20,012	0.07	13.11
29	8,395	2,706,648	68,800	0.03	8.20
30	1,645	287,633	20,000	0.07	12.16
31	1,651	1,014,000	115,152	0.11	69.75
32	3,311	697,900	33,366	0.05	10.08
33	18,518	5,056,670	80,941	0.02	4.37
34	3,120	274,424	19,905	0.07	6.38
35	21,569	3,665,000	277,509	0.08	12.87
36	3,186	425,041	34,129	0.08	10.71
37	26,564	4,271,792	303,200	0.07	11.41
38	4,342	158,700	43,520	0.27	10.02
39	1,200	590,739	25,850	0.04	21.54
40	2,459	85,773	351,818	0.42	14.57
41	9,075	1,130,150	352,163	0.31	38.81
42	16,800	2,899,390	256,327	0.09	15.26
43	8,113	1,482,349	95,721	0.06	11.80

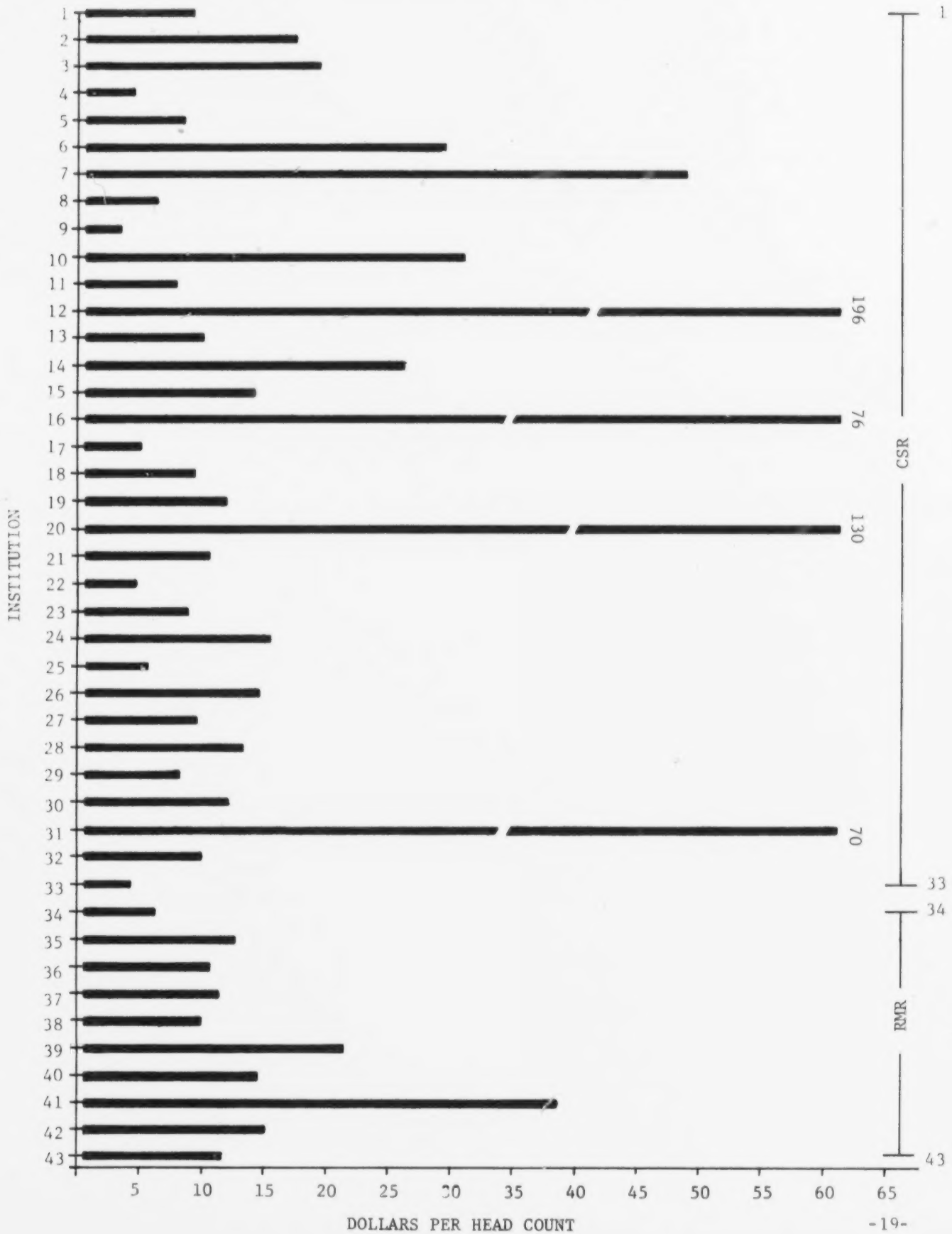
ADMINISTRATION AND GENERAL SERVICES

1971-72 Fiscal Year Sq. Ft. Comparison



ADMINISTRATION AND GENERAL SERVICES

1971-72 Fiscal Year Head Count Comparison

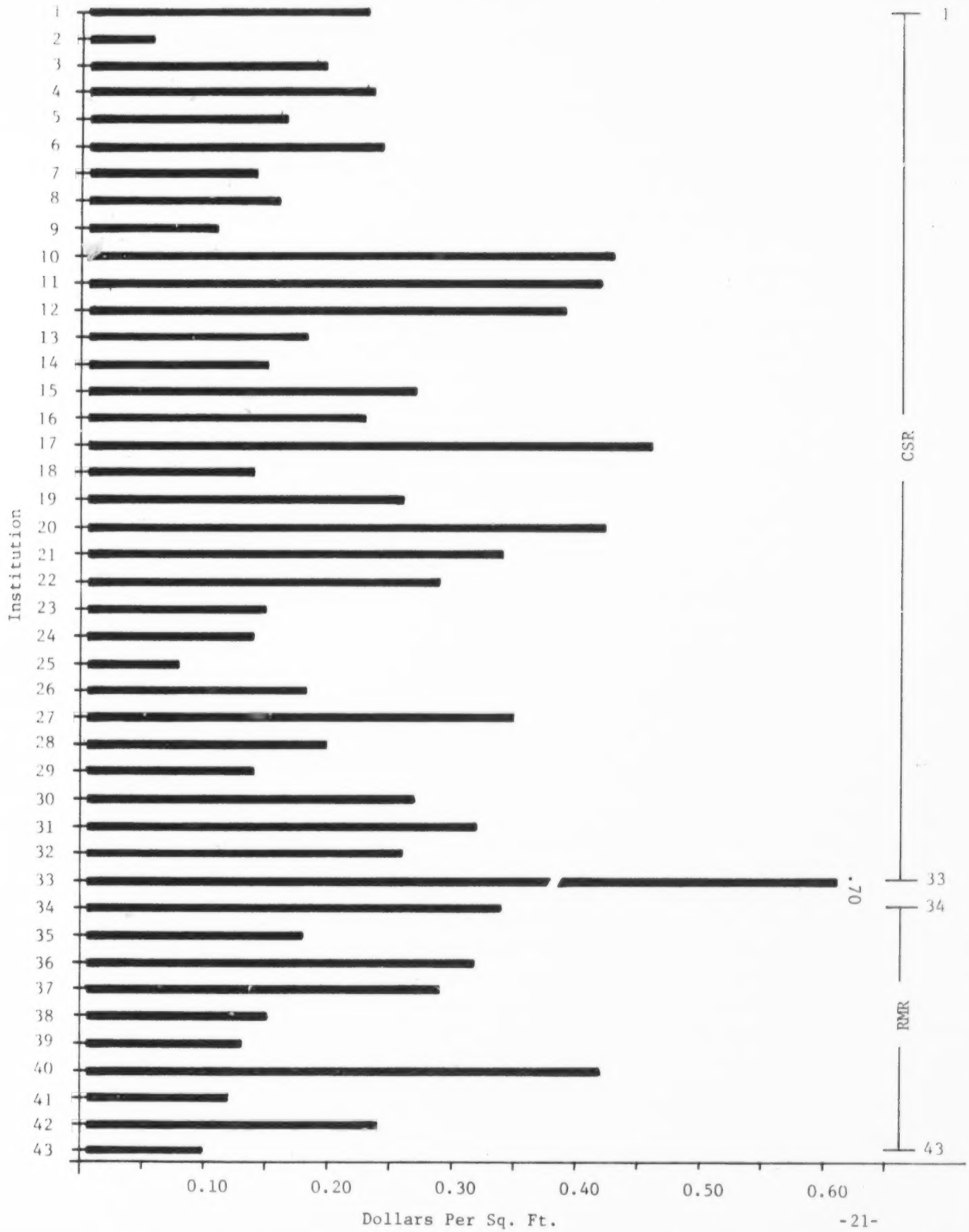


BUILDING MAINTENANCE COSTS
1971 - 1972

INSTITUTION	HEAD COUNT	SQUARE FEET	COSTS $	COST/ SQ. FT. $	COST/ HEAD COUNT $
1	6,217	570,280	133,322	0.23	21.44
2	5,625	1,396,747	86,428	0.06	15.36
3	14,789	2,659,954	511,487	0.19	34.59
4	26,475	3,483,912	813,905	0.23	30.74
5	10,016	1,437,965	235,177	0.16	23.48
6	3,231	1,866,540	449,755	0.24	139.20
7	4,755	1,182,240	162,108	0.14	34.09
8	6,273	1,370,824	212,492	0.16	33.87
9	12,572	3,042,572	329,156	0.11	26.18
10	21,942	3,426,363	1,461,670	0.43	66.62
11	13,034	880,898	369,063	0.42	28.32
12	546	524,039	208,400	0.39	381.68
13	3,083	334,464	61,207	0.18	19.85
14	9,894	1,040,287	156,920	0.15	15.86
15	4,100	520,443	142,579	0.27	34.78
16	1,233	965,848	216,936	0.23	175.94
17	7,302	774,467	352,696	0.46	48.30
18	5,195	571,919	77,424	0.14	14.90
19	11,348	1,114,183	287,323	0.26	25.32
20	576	468,200	198,528	0.42	344.67
21	10,188	813,140	277,834	0.34	27.27
22	6,124	497,000	146,453	0.29	23.91
23	3,974	657,795	96,324	0.15	24.24
24	1,030	250,440	34,108	0.14	33.11
25	12,400	833,131	63,352	0.08	5.11
26	3,749	227,972	42,356	0.18	11.30
27	8,108	1,007,212	351,185	0.35	43.31
28	1,526	271,181	53,187	0.20	34.85
29	8,395	1,554,953	215,538	0.14	25.67
30	1,645	300,000	80,588	0.27	48.99
31	1,651	1,014,000	321,785	0.32	194.90
32	3,311	697,900	180,471	0.26	54.51
33	18,518	3,664,874	2,572,714	0.70	138.93
34	3,120	274,424	94,296	0.34	30.22
35	21,569	3,665,000	645,647	0.18	29.93
36	3,186	425,041	136,367	0.32	42.80
37	26,564	4,261,792	1,244,837	0.29	46.86
38	4,342	967,225	142,521	0.15	32.82
39	1,200	590,739	77,700	0.13	64.75
40	2,459	85,773	35,905	0.42	14.60
41	9,075	1,130,151	140,573	0.12	15.49
42	16,800	2,899,390	698,750	0.24	41.59
43	8,113	1,482,349	155,523	0.10	19.17

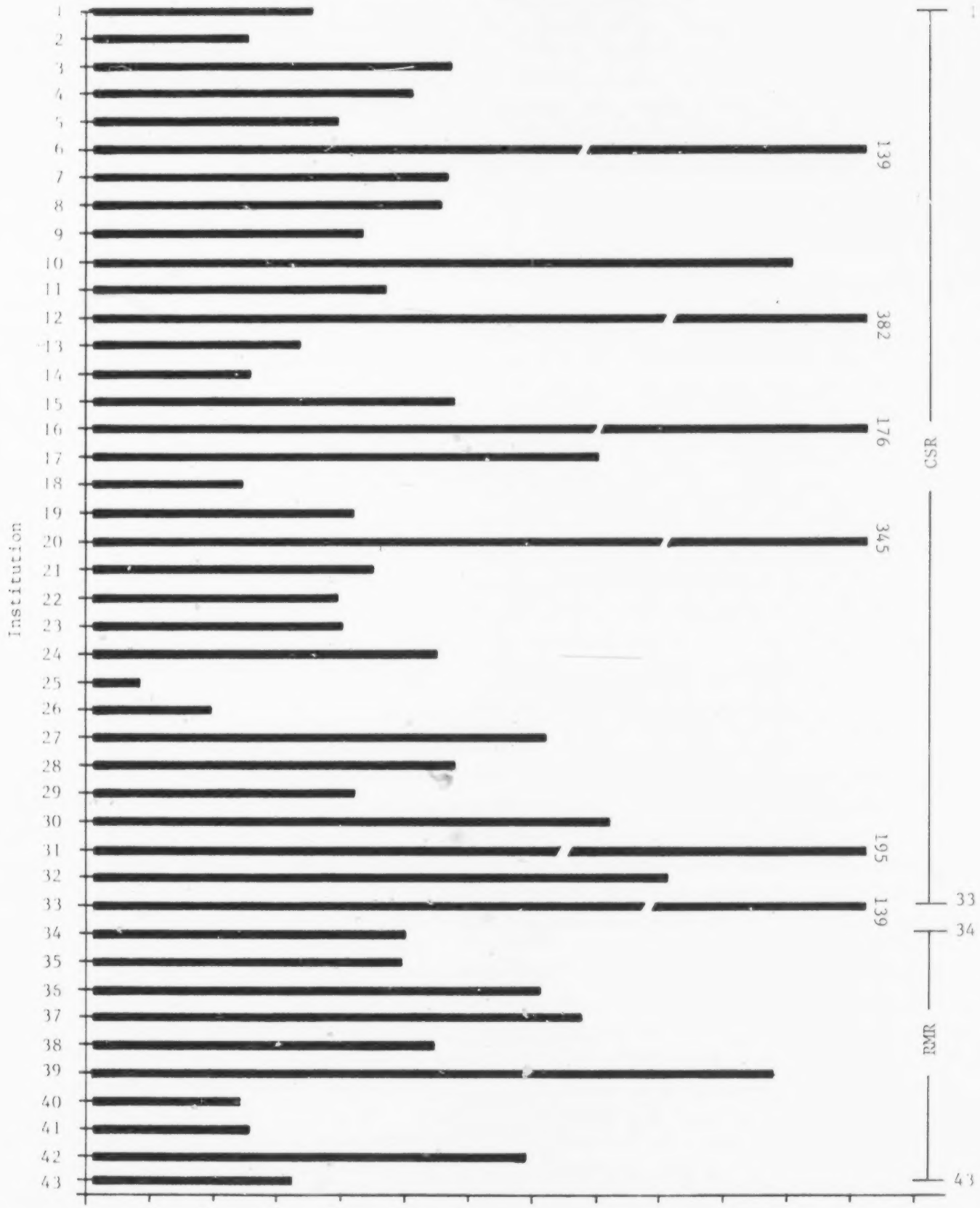
BUILDING MAINTENANCE COSTS

1971-72 Fiscal Year Sq. Ft. Comparison



BUILDING MAINTENANCE COSTS

1971-72 Fiscal Year Head Count Comparison

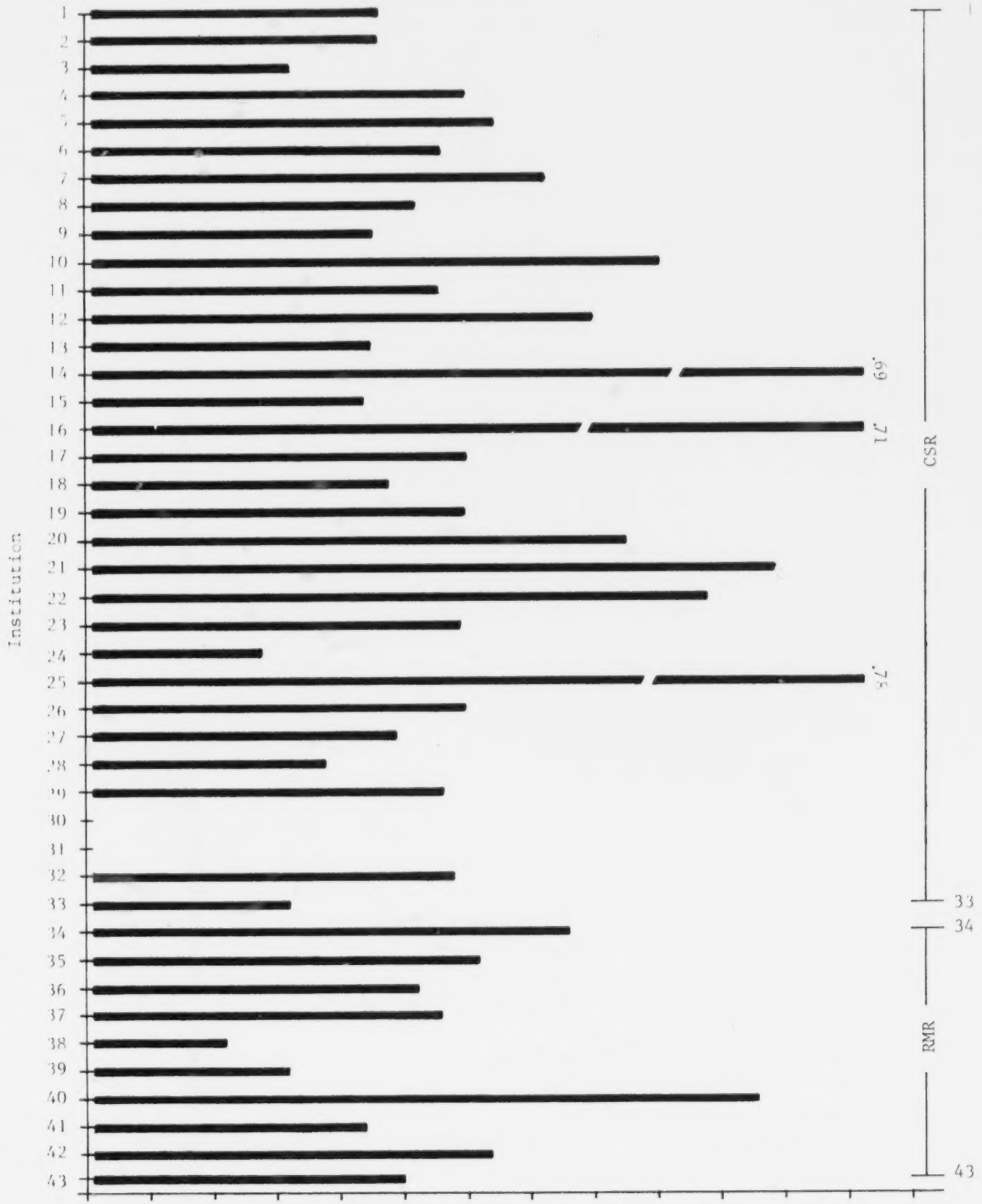


CUSTODIAL COSTS
1971 - 1972

INSTITUTION	HEAD COUNT	SQUARE FEET	COSTS	COST/ SQ. FT.	COST/ HEAD COUNT
			$	$	$
1	6,217	570,280	131,032	0.23	21.08
2	5,625	1,396,747	315,964	0.23	56.17
3	14,789	2,562,461	404,743	0.16	27.37
4	26,475	3,229,630	970,455	0.30	36.66
5	10,016	1,437,965	463,905	0.32	46.32
6	3,231	1,866,540	520,393	0.28	161.06
7	4,755	1,048,086	381,001	0.36	80.13
8	6,273	651,556	170,347	0.26	27.16
9	12,572	2,841,796	645,476	0.23	51.34
10	21,942	3,548,558	1,608,127	0.45	73.28
11	13,034	880,898	246,289	0.28	18.90
12	546	524,039	210,015	0.40	384.64
13	3,083	334,464	75,408	0.23	24.46
14	9,894	986,601	682,017	0.69	68.93
15	4,100	520,443	116,640	0.22	28.45
16	1,233	864,170	617,225	0.71	500.59
17	7,302	774,467	225,542	0.30	30.89
18	5,195	521,391	124,911	0.24	24.04
19	11,348	1,114,183	332,658	0.30	29.31
20	576	468,200	199,588	0.43	346.51
21	10,188	813,140	441,569	0.54	43.34
22	6,124	497,000	243,174	0.49	39.71
23	3,974	324,519	96,000	0.30	24.16
24	1,030	246,026	34,348	0.14	33.35
25	12,400	466,253	363,806	0.78	29.34
26	3,749	227,972	68,705	0.30	18.33
27	8,108	852,462	209,871	0.25	25.88
28	1,526	271,181	51,300	0.19	33.62
29	8,395	1,507,872	426,658	0.28	50.82
30					
31					
32	3,311	697,900	202,495	0.29	61.16
33	18,518	3,664,874	584,377	0.16	31.56
34	3,120	274,424	104,587	0.38	33.52
35	21,569	3,665,000	1,136,079	0.31	52.67
36	3,186	425,041	111,509	0.26	35.00
37	26,564	3,213,741	904,397	0.28	34.05
38	4,342	956,988	106,873	0.11	24.61
39	1,200	570,683	93,000	0.16	77.50
40	2,459	85,773	45,726	0.53	18.60
41	9,075	1,130,151	252,607	0.22	27.84
42	16,800	2,899,390	921,386	0.32	54.84
43	8,113	1,202,021	301,237	0.25	37.13

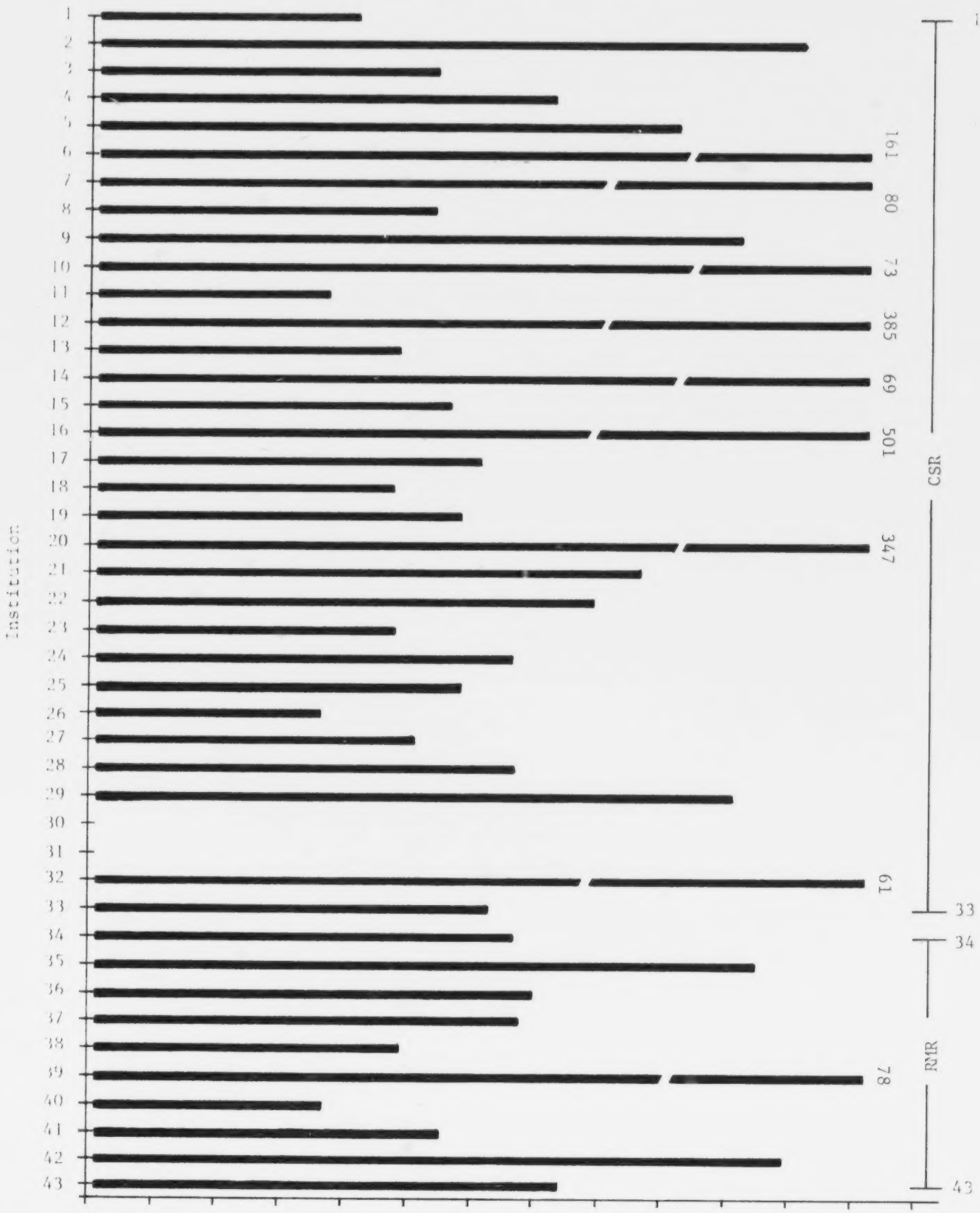
CUSTODIAL COSTS

1971-72 Fiscal Year Sq. Ft. Comparison



CUSTODIAL COSTS

1971-72 Fiscal Year Head Count Comparison

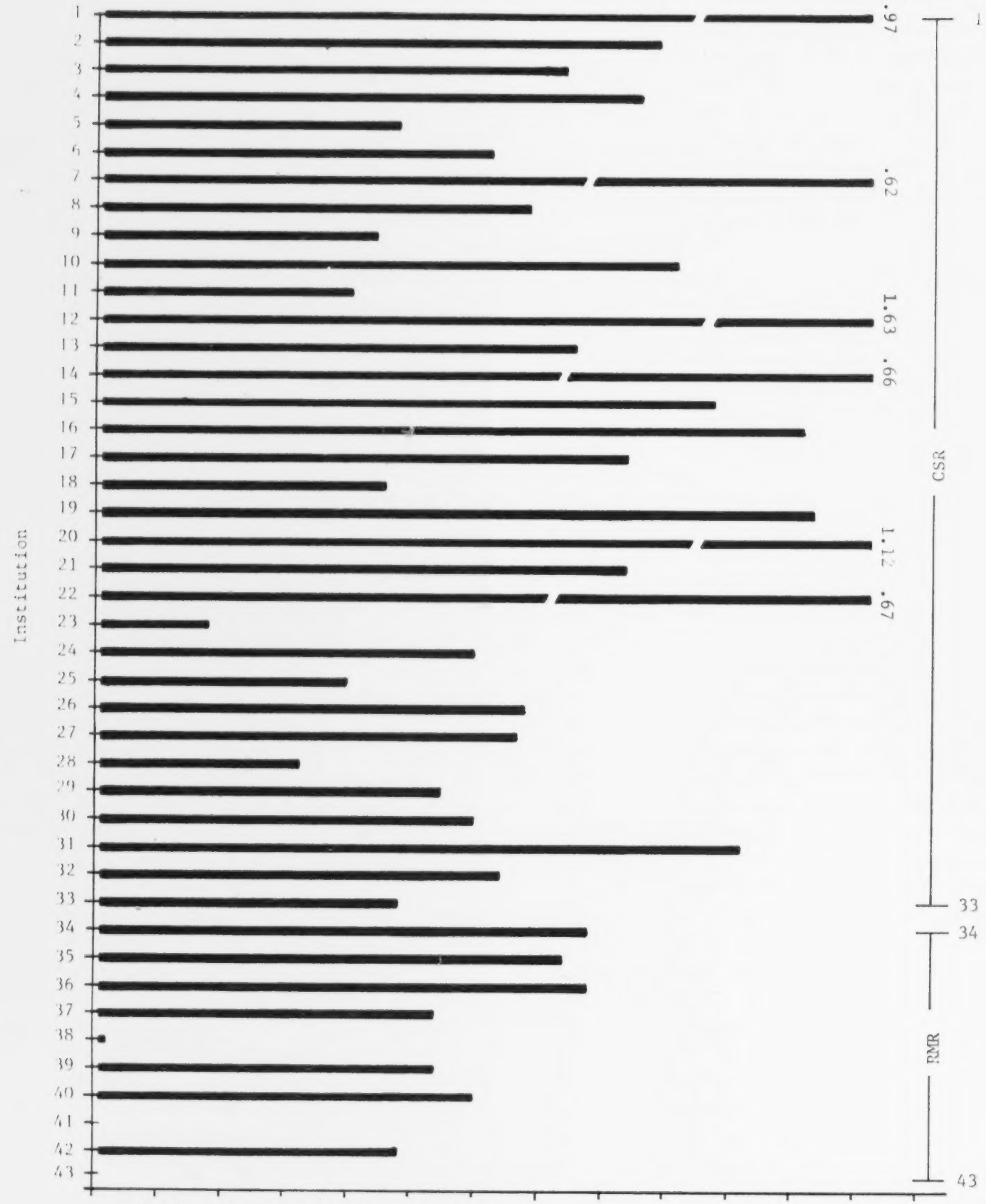


UTILITIES
1971 - 1972

INSTITUTION	HEAD COUNT	SQUARE FEET	COSTS	COST/ SQ. FT.	COST/ HEAD COUNT
			$	$	$
1	6,217	570,280	551,009	0.97	88.63
2	5,625	1,396,747	250,109	0.18	44.46
3	14,789	2,925,332	1,070,545	0.37	72.38
4	26,475	3,663,912	1,561,310	0.43	58.97
5	10,016	1,437,965	344,526	0.24	34.40
6	3,231	1,866,540	585,691	0.31	181.27
7	4,755	1,176,670	752,319	0.62	158.22
8	6,273	651,556	223,340	0.34	35.60
9	12,572	3,018,550	670,444	0.22	53.33
10	21,942	5,735,660	2,636,150	0.46	120.14
11	13,034	880,898	179,506	0.20	13.77
12	546	524,039	856,401	1.63	1,568.50
13	3,083	334,464	127,019	0.38	41.20
14	9,894	1,096,801	728,380	0.66	73.62
15	4,100	520,443	253,270	0.49	61.77
16	1,233	980,217	548,967	0.56	445.23
17	7,302	774,467	318,862	0.42	43.67
18	5,195	571,919	129,001	0.23	24.83
19	11,348	1,114,183	632,705	0.57	55.75
20	576	468,200	524,730	1.12	910.99
21	10,188	813,140	338,289	0.42	33.20
22	6,124	497,000	332,371	0.67	54.27
23	3,974	657,795	59,223	0.09	14.90
24	1,030	250,440	74,000	0.30	71.84
25	12,400	833,131	165,000	0.20	13.31
26	3,749	227,972	78,880	0.34	21.04
27	8,108	1,007,212	335,849	0.33	41.42
28	1,526	271,181	44,169	0.16	28.94
29	8,395	2,708,648	740,607	0.27	88.22
30	1,645	287,633	84,976	0.30	51.66
31	1,651	1,014,000	515,373	0.51	312.16
32	3,311	697,900	220,000	0.32	66.45
33	18,518	3,611,300	878,188	0.24	47.42
34	3,120	274,424	106,000	0.39	33.97
35	21,569	3,665,000	1,344,460	0.37	62.33
36	3,186	425,041	164,940	0.39	51.77
37	26,564	4,444,902	1,200,123	0.27	45.18
38	4,342	8,712,000	121,540	0.01	27.99
39	1,200	570,683	156,900	0.27	130.75
40	2,459	85,773	25,951	0.30	10.51
41	9,075		749,852		82.63
42	16,800	2,899,390	705,278	0.24	41.98
43	8,113		362,945		44.74

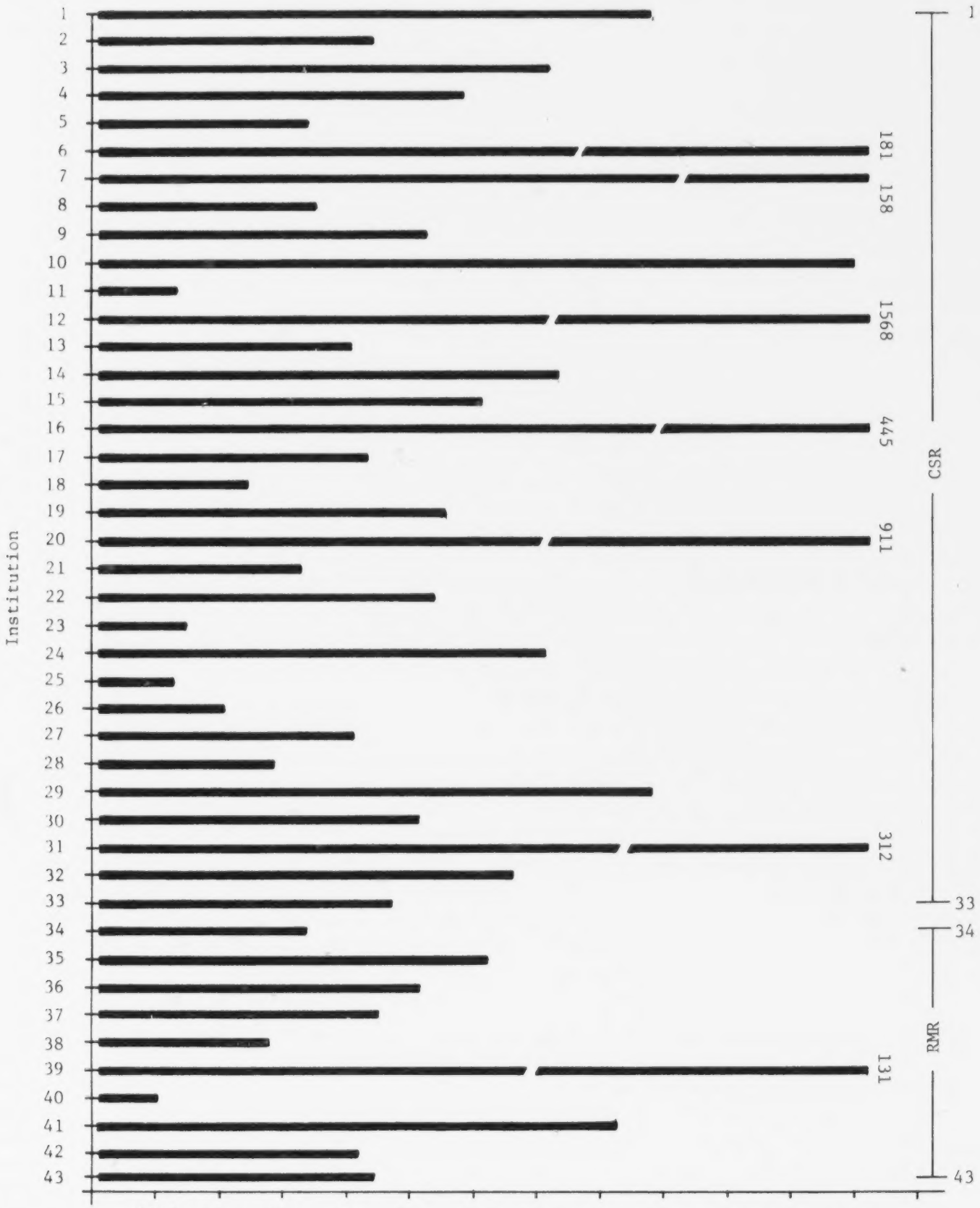
UTILITIES

1971-72 Fiscal Year Sq. Ft. Comparison



UTILITIES

1971-72 Fiscal Year Head Count Comparison

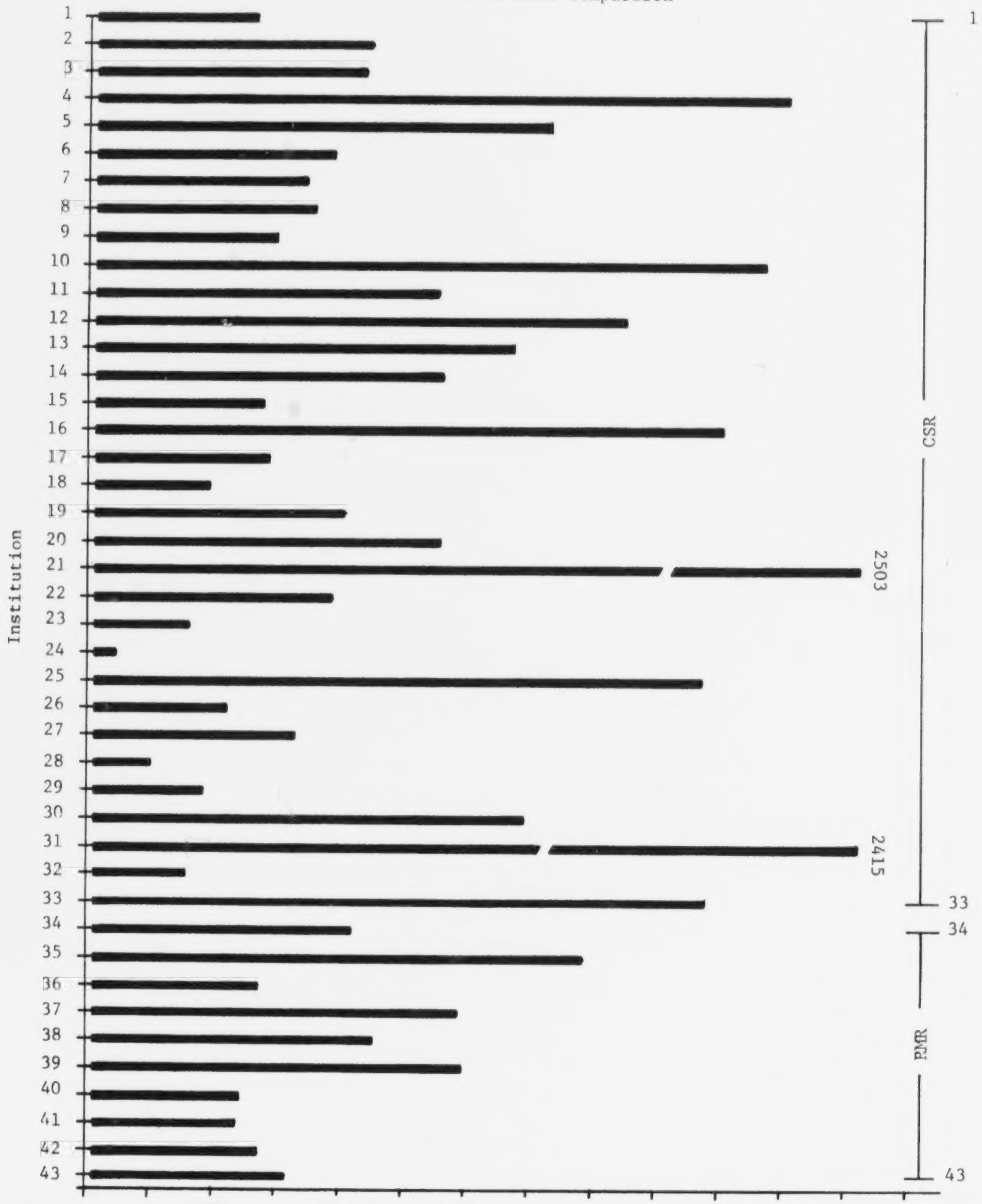


LANDSCAPE & GROUNDS MAINTENANCE
1971 - 1972

INSTITUTION	HEAD COUNT	GROSS ACRES	ACRES MAINTAINED	COSTS	COST/ACRE MAINTAINED	COST/ HEAD COUNT
				$	$	$
1	6,217	162	110	57,823	527	9.30
2	5,625	202	80	71,324	892	12.68
3	14,789	340	180	157,123	873	10.62
4	26,475	350	150	332,955	2,220	12.58
5	10,016	171	171	250,500	1,464	25.01
6	3,231	285	222	171,938	775	53.22
7	4,755	192	114	78,852	692	16.58
8	6,273	174	133	94,608	714	15.08
9	12,572	781	432	258,030	597	20.52
10	21,942	1,200	290	622,289	2,146	28.36
11	13,034	268	138	153,780	1,114	11.80
12	546	51	28	47,988	1,714	87.89
13	3,083	52	45	61,030	1,356	19.80
14	9,894	97	97	109,010	1,124	11.02
15	4,100	100	100	56,644	566	13.82
16	1,233	44	30	60,501	2,009	49.07
17	7,302	421	200	114,635	573	15.70
18	5,195	160	160	62,289	389	11.99
19	11,348	174	174	140,891	810	12.42
20	576	100	35	39,121	1,118	67.92
21	10,188	129	43	107,625	2,503	10.56
22	6,124	110	60	46,557	776	7.60
23	3,974	130	90	29,242	325	7.36
24	1,030	160	90	8,360	93	8.12
25	12,400	63	42	81,911	1,950	6.61
26	3,749	561	96	42,750	443	11.40
27	8,108	154	98	64,736	661	7.98
28	1,526	120	60	12,184	203	7.98
29	8,395	466	276	102,174	370	12.17
30	1,645	20	12	16,600	1,383	10.09
31	1,651	35	35	83,311	2,415	50.46
32	3,311	140	140	43,929	314	13.27
33	18,518	950	250	491,613	1,966	26.55
34	3,120	640	33	27,793	842	8.91
35	21,569	1,168	362	570,526	1,576	26.45
36	3,186	228	150	82,093	547	25.77
37	26,564	436	310	365,218	1,178	13.75
38	4,342	400	120	109,427	912	25.20
39	1,200	102	50	59,500	1,190	49.58
40	2,459	50	20	9,801	490	3.99
41	9,075	6,250	375	179,153	478	19.74
42	16,800	2,862	418	230,410	551	13.71
43	8,113	1,156	204	129,262	634	15.93

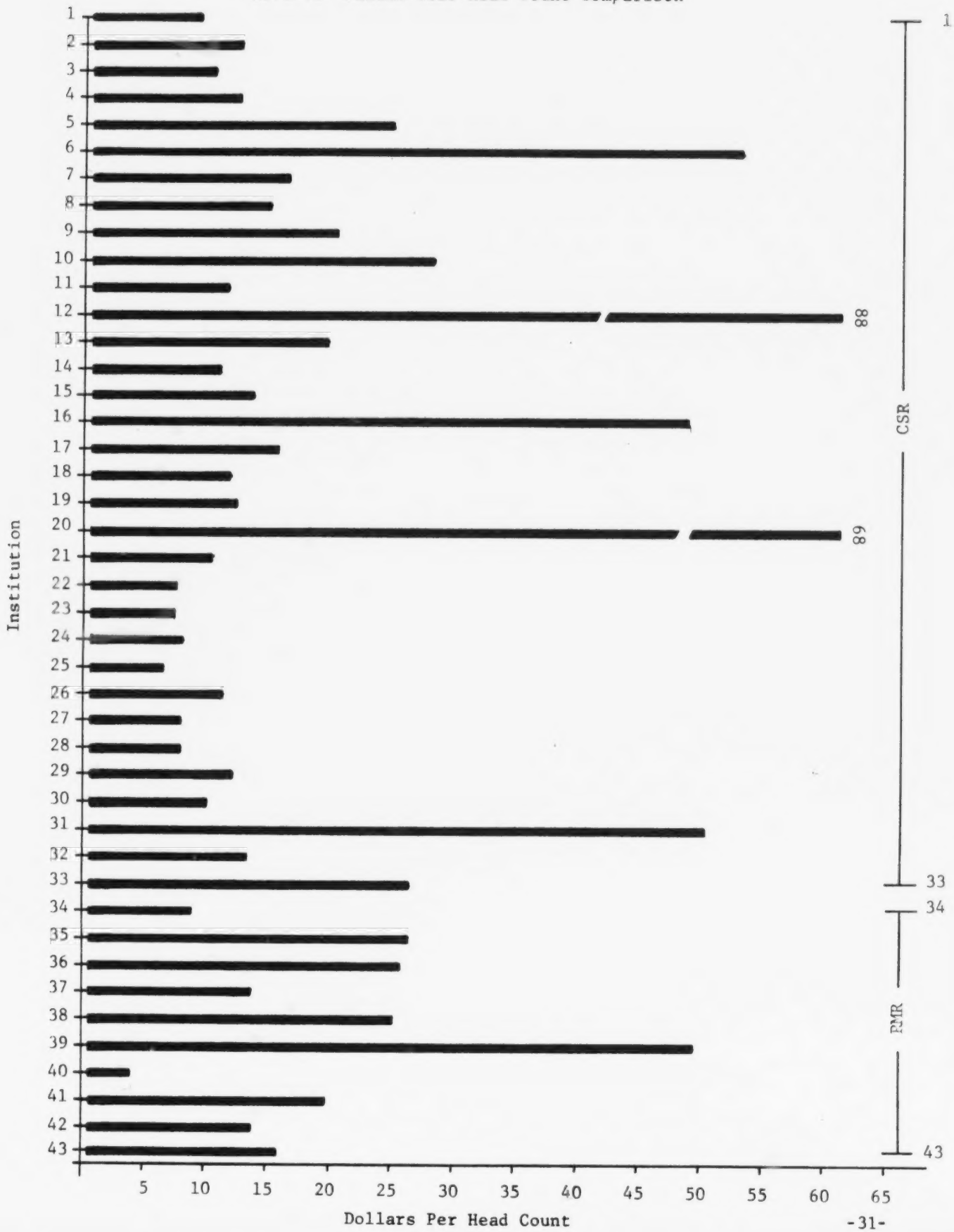
LANDSCAPE & GROUNDS MAINTENANCE

1971-72 Fiscal Year Acre Comparison



LANDSCAPE & GROUNDS MAINTENANCE

1971-72 Fiscal Year Head Count Comparison

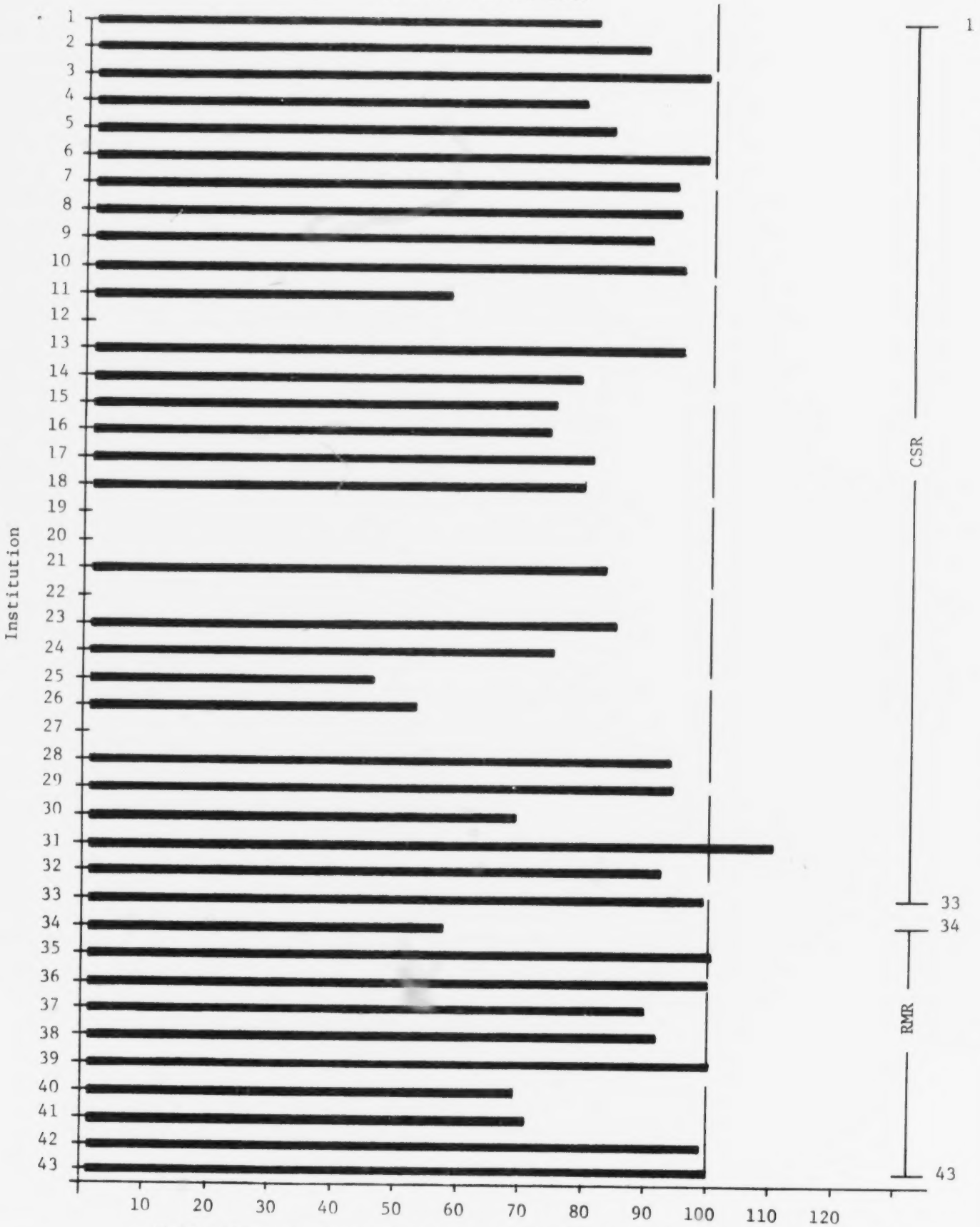


OPERATING RATIOS
1971 - 1972

STITUTION	F.T.E./% HEAD COUNT	PHYSICAL PLANT/% INSTITUTIONAL BUDGET	% CAMPUS ACRES MAINTAINED	MAJOR REPAIRS/ PHY. PLANT BUDGET, %
1	81.8	18.0	67.9	0.8
2	89.3	12.5	39.5	4.4
3	99.1	5.6	52.9	3.8
4	79.2	13.5	42.9	3.9
5	84.1	6.8	100.0	5.7
6	99.0	0.8	77.9	18.4
7	94.3	13.3	59.5	24.5
8	94.7	15.9	76.0	38.5
9	90.4	17.4	55.3	19.8
10	95.6	7.8	24.2	7.0
11	58.5	8.7	51.5	6.2
12			55.3	4.2
13	95.8	14.0	86.5	12.5
14	79.4	13.7	100.0	22.3
15	75.3	17.8	100.0	
16	74.6	10.0	68.6	
17	81.4	10.8	47.5	
18	80.0	11.3	100.0	6.2
19		12.3	100.0	8.8
20		10.5	35.0	4.9
21	83.6	11.1	33.3	3.0
22			54.5	
23	85.2	7.6	69.2	7.7
24	75.2	14.9	56.3	13.7
25	46.2		66.7	17.0
26	53.4	8.6	17.2	4.4
27		11.2	63.5	13.1
28	94.0	10.3	50.0	33.9
29	94.4	9.3	59.2	11.3
30	69.3	7.0	60.0	
31	110.1	4.8	100.0	36.1
32	92.3	11.5	100.0	3.8
33	99.2	8.7	26.3	3.3
34	57.9	15.6	5.2	
35	100.5	5.0	31.0	3.4
36	100.0	13.4	65.8	
37	90.1	9.7	71.1	8.2
38	92.1	8.2	30.0	10.7
39	100.4	17.2	49.0	1.1
40	69.3	9.4	40.0	9.9
41	71.1	14.3	6.0	12.5
42	98.6	9.5	14.6	9.5
43	100.1	10.3	17.6	

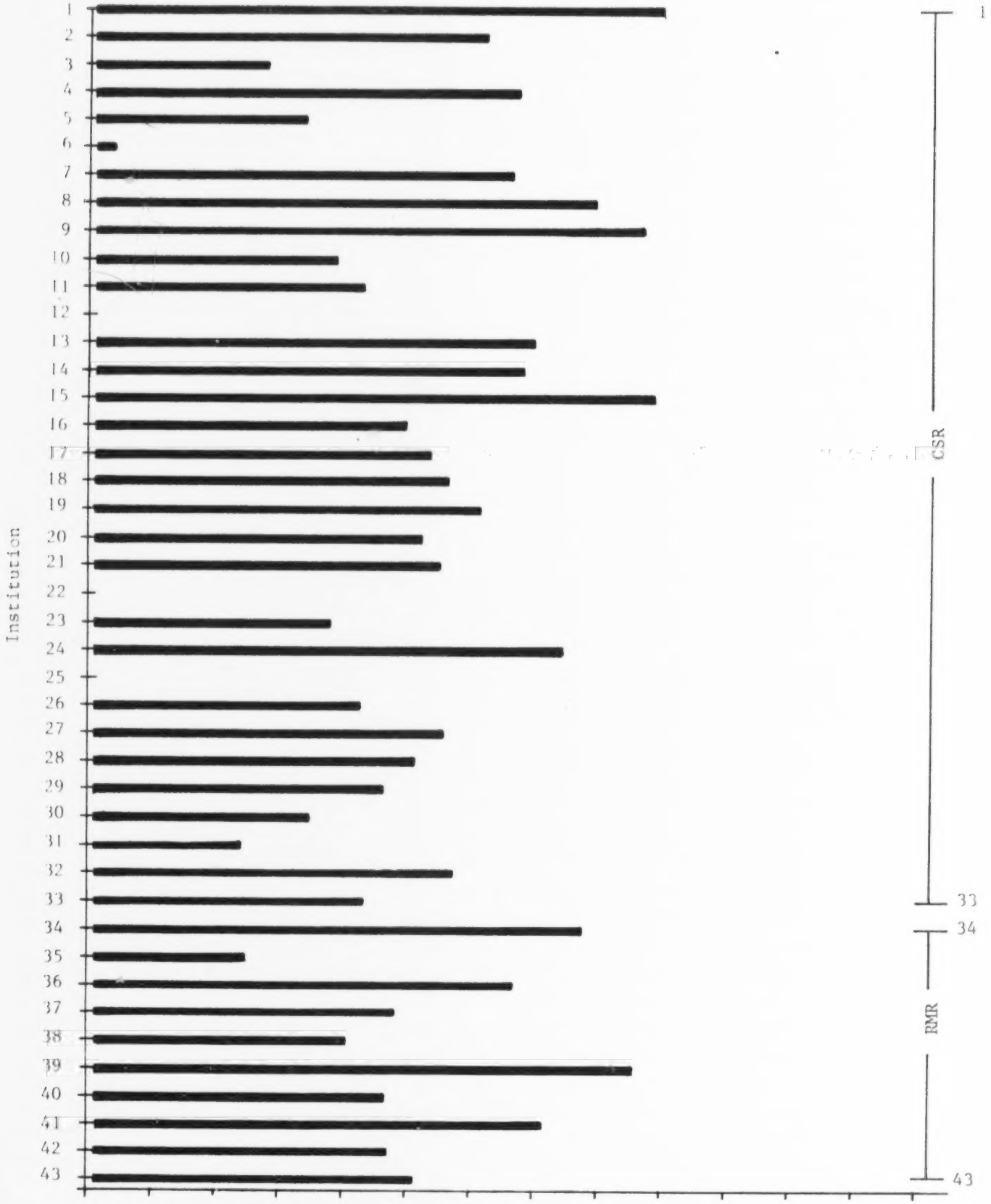
OPERATING RATIOS

1971-72 Fiscal Year



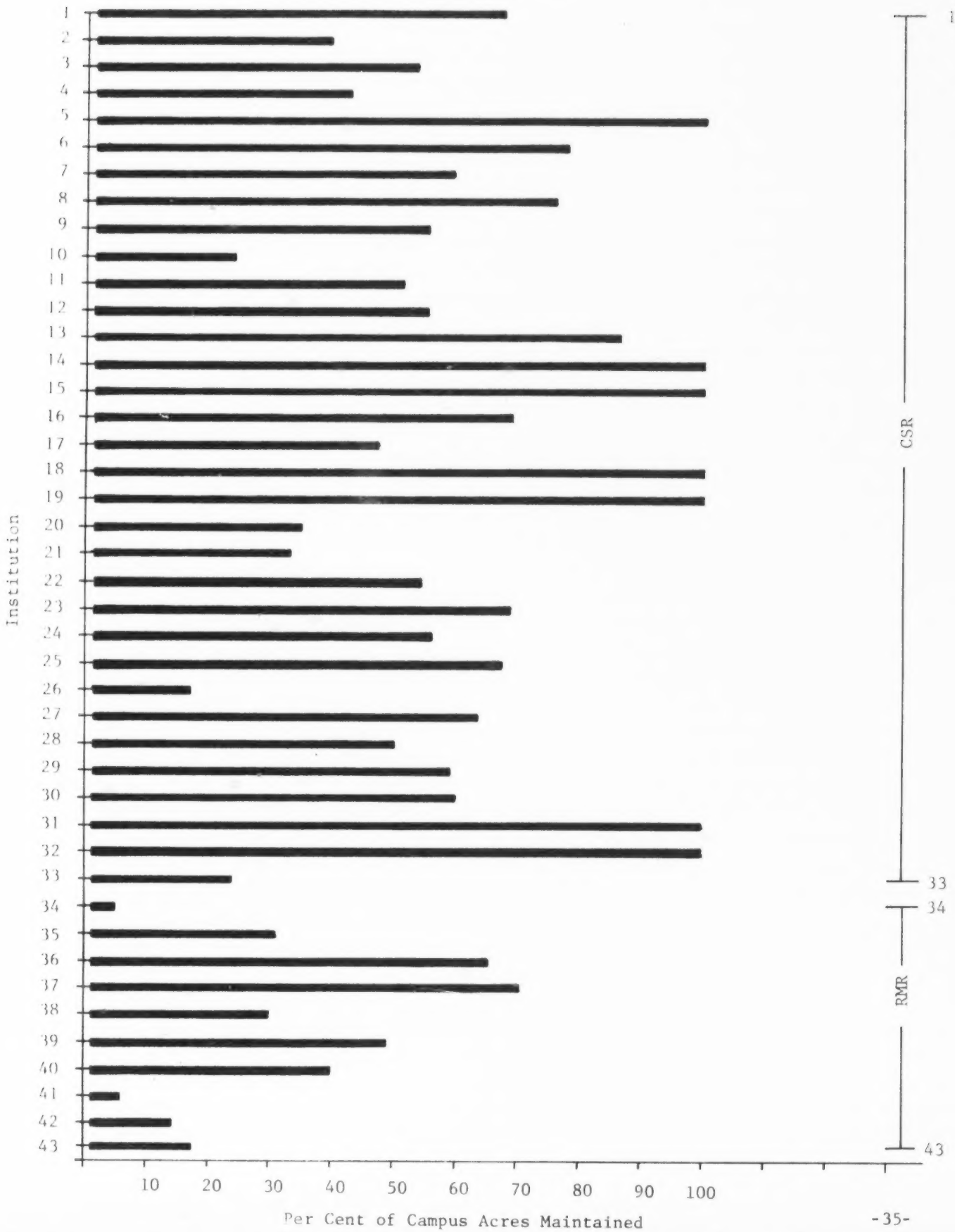
OPERATING RATIOS

1971-72 Fiscal Year



OPERATING RATIOS

1971-72 Fiscal Year



OPERATING RATIOS

1971-72 Fiscal Year